A LONGITUDINAL STUDY COMPARING SUCCESSFUL AND NON-SUCCESSFUL COMMUNITY COLLEGE HIGH RISK STUDENTS ON SEVERAL PSYCHOLOGICAL INSTRUMENTS

By

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Dedicated to
My Family

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A LONGITUDINAL STUDY COMPARING SUCCESSFUL AND NON-SUCCESSFUL COMMUNITY COLLEGE HIGH-RISK STUDENTS ON SEVERAL PSYCHOLOGICAL INSTRUMENTS

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In the past twenty years, the advent of community colleges with their open-door admissions policy, entitlement legislation in the area of financial aid programs and the impact of civil rights legislation have given rise to an increasing number of high-risk students entering post-high school education. Attrition rates are very high for these students and the process is frustrating and expensive both for the participants in and the administrators of the programs.

Interest in high-risk students is relatively new. In 1963, as few as 20% of a sample of colleges and universities had special curricula for low ability students. By 1970, more than $10 billion dollars had been spent in the education of disadvantaged students, and there were no definitive statements regarding the effectiveness of compensatory education. Projections of declining enrollments in higher education have made the development of a service to high-risk students an increasingly more interesting market for educators.

Programs designed for high-risk students are varied in format and components. Criteria are generally agreed upon, but the techniques of remediation are not.

A review of the literature points to the importance of non-cognitive variables affecting academic performance.

This study investigated the values (as measured by the Allport-Vernon-Lindzey Study of Values), the self-concept aspect (as measured by the Tennessee Self Concept Scale), and some cognitive processes (as measured by the Watson-Glazer Critical Thinking Appraisal) of 73 high-risk community college students prior to their entry into a program for high-risk students. A follow-up was later conducted to determine which students were successful as measured by completing a program or receiving a degree.

The author's supposition is that high-risk students have a constellation of psychological characteristics that predispose their success or failure. Unless the particular cluster of values, attitudes, and habits that predispose high-risk students to failure is prescriptively challenged through educational experiences, very little change will occur for the individual.

The data were analyzed using discriminant function analysis comparing the successful versus the nonsuccessful, the successful versus the potentially successful, and the potentially successful versus the non-successful. The over-all F ratios were not significant in the three comparisons. Several sub-tests did combine in a regression to differentiate membership assignment among groups. No one psychological instrument emerged dominant; however, the research suggests that a multivariate approach using discriminant function analysis might be productive in identifying a constellation of characteristics unique to the high-risk population. Such knowledge is necessary before prescriptive remediation can be effected. The results of this investigation suggest that variables centering around divergent thinking, self-worth, and social relationships are appropriate areas for future research.

CHAPTER ONE

INTRODUCTION

The purpose of this study is to identify non-cognitive parameters that can identify high-risk students in a community college who have high and low probabilities of success. Statistics on the actual number of high-risk students who successfully complete lower division studies and transfer or those completing technical programs are not available. The proportion of those high-risk students that are successful is an elusive statistic.

The open door policy of community colleges and the increased financial aid programs have given rise to the number of high-risk students enrolling in post-high school education (Trachtman, 1975; Spickelmier, 1973; Jones and Osborne, 1977; Rayburn and Hayes, 1975). The challenge presented by these students has stimulated experiments in curriculum design and research in individual learning styles as well as in the area of effective teaching techniques (Roueche,1968; Roueche and Kirk, 1973; Gowan and Demos, 1966; Mixed Results, 1978).

Because of these factors, the Federal government in the past three decades has become increasingly more involved in education. Rogers and Hirsch (1971) point out that expenditures in the education industry are second only to the defense industry in the United States. From 1965 to 1975, federal outlays for education tripled, reaching a total of 11.5 billion in 1975 (Rising Complaints, 1975). Halstead (1974) chronicled that four times as many dollars were spent for education in the 72-73 year as were spent in the 62-63 year; a percentage increase double that of the growth rate of the gross national product. Projected costs for our nation's schools are 128.3 billion for the 77-78 year and 159.0 billion by 1985, a 25% increase before correcting for inflation. The question for the citizenry is, are we getting our monies worth?

In 1954, the Supreme Court decision declaring any form of social discrimination in public education as unconstitutional initiated the move toward integrating the dual educational system then existing in the United States. The Great Society psychology spawned the Peace Corps in 1961 and the Vista Program in 1965. The junior college concept emphasized a move on the part of higher education toward the populace; making college education more accessible and less expensive. In 1965, as part of the "war on poverty," the Office of Economic Opportunity initiated Community Action Programs such as Head Start, Upward Bound, and Talent Search. The purpose of these programs was to identify and assist the disadvantaged students in over-coming deficiencies and to make new opportunities available to them (Rees, 1968; Basic Education Opportunity Grant Handbook, 1975). The Basic Education Opportunity Grant of 1973 was an historical piece of legislation because it was an entitlement which granted monies to people whose income fell below specified levels. This made available educational opportunities to a segment of the population for which post high school education would have been cost prohibitive.

CHAPTER TWO

REVIEW OF THE LITERATURE

Survival in the world of higher education is difficult for the average student, economically as well as academically. Because of the selectivity inherent in higher education, the high-risk student finds it proportionately more difficult to remain in college. The current investment cost of a bachelor's degree is between $10,000 and $20,000. The process is long, fragmented, and expensive. Many programs are so general in nature they have little value in the job market, a place where all students someday must enter.

Pearson (1977) states, "one of the largest problems faced by administrators and faculty members today is that of the college dropout" (p. 1926). Iffert's 1958 study of dropout rates of regular student populations reported private institutions lost 52% of their students while public institutions lost 67%, making an average of 60% for the four year programs. It would seem this represents a tremendous expenditure of time, talent, and money or an inability to match educational programs to societal needs. Gekoski and Schwartz (1961) reported an estimated 50% of college students leave the first year. The American College Testing Corporation's 1977 attrition study reported 45% in 1972, and 40% in 1974, as dropout statistics after one year. To soften these kind of figures, the "dropout-drop-in" classification and life-long educational needs concept have been promulgated and estimates of student completion rates vary. Jex and Merrill (1962) estimated 60% of the dropouts eventually graduate. In view of the projected decline of student population, the dropout and high-risk student have commanded new attention.

Interest in high-risk students is relatively new. In 1963, Schenz surveyed 186 public and 50 private junior colleges and found only 20% of these colleges provided some type of curricula of special courses for low ability students. His survey reported all public junior college administrators agreed on "education for all" as fundamental to their college's mission, an opinion not shared by all private school administrators (Schenz, 1963). Prior to 1966, colleges showed little interest in special programs for disadvantaged or high-risk students (Rayburn and Hayes, 1975). In 1966, Gordon and Wilkerson surveyed 2903 colleges and universities and of the 610 (21%) responding, only 224 (36.7%) indicated they had such special programs. In that survey, only four colleges in Florida reported they had a program. Correspondence with the Division of Community Colleges (Department of Education, State of Florida) in 1978 indicated only five colleges possibly have some institutional statistics on their high-risk populations. Wright (1977) surveyed the colleges and universities of the Southern Association of Colleges and Schools and found little evidence that high-risk students were being adequately served after they entered college.

In 1970, Gordon reported, " . . . more than $10 billion had been invested in the education of the disadvantaged and yet we are unable to make a definitive statement regarding the value of compensatory education" (p. 2).

Community colleges have been the focal point of this challenge because of their open-door admissions policy (Schenz, 1963). However, universities, special programs, and professional schools may be faced with the same problems of adapting curriculum to meet the needs of non-traditional students as admission quotas are established through federal guidelines.

Declining test scores (Quest for Better Schools, 1978; ACT, 1977) and persistent dropout rates coupled with corresponding high rates of unemployment among young people invite the question of the effectiveness of our educational system. The general public, after years of innovative education and fads, has begun to clamor for a "return to the basics" (Back to the Basics, 1974). The projection of 30% of the 11th graders in Florida failing the literacy tests in 1977, raised alarm to parents (Literacy Test Results, 1977). It also raises the question of where in the educational process does compensatory education belong, elementary school, middle school, high school, or college?

Miller and O'Connor, in 1969, felt the failure of remedial programs was a causative factor in not helping the black students into the mainstream of educational society.

Bessent (1970) surveyed programs for the services of disadvantaged students in nursing programs and reported rather discouraging results. Puig-Casavranc (1974) came to much the same conclusion when he questioned current practices of special education programs and called for a totally new approach to the problem. Dispenzieri and others (1971) found the special programs operating under the handicap of insufficient empirical knowledge about the relationship between the characteristics of high-risk or disadvantaged students and academic success.

Community colleges have attempted to respond to the challenge by implementing programs or courses which through the years have been referred to as remedial, compensatory, guided, developmental, basic and lately, special (Maier, 1971; Henard & Byrd, 1977; Roueche, 1968). Characteristics common to these programs are (a) remedial courses in English, mathematics, and reading; (b) tutoring services; (c) a psychologically oriented adjustment course; (d) individualized or modualized instruction; (e) expanded use of audio-visual materials; (f) smaller instructor-student ratios; (g) extra support services in counseling; and (h) non-punitive grading systems (Roueche & Kirk, 1973, Henard & Byrd, 1977; Gowan & Demos, 1966; Jones & Osborne, 1977; Crisis in the Schools, 1975; Wright, 1977).

In 1976, Moore recognized the two year college's commitment to high-risk students but found the goal "ineffectively accomplished." Morrison and Ferranti (1973) found community colleges' compensatory education programs not very successful in encouraging high-risk students because of an over emphasis on the cognitive domain and called for an interactionist approach recognizing the affective aspect. Amholter (1956) found dropouts were poorly adjusted to school because the schools did not help meet their social needs.

In 1978, correspondence with the State of Florida's Department of Education reported only 2.2% of the 535,396 community college enrollees were in compenstory programs. The actual figures are undoubtedly higher than reported because many high-risk students are not captured in such a statistic as they enroll in adult education, technical, or professional and advanced programs. The Division of Community Colleges of the State Department of Education for the State of Florida does not collect data on the attrition of high-risk students, characteriscs of compensatory programs, or follow-up statistics of the high-risk students. Part of the problem is the lack of agreement on definitions and on the criteria of high-risk students and even on the components of a program. The differences in research design, population samples, statistical treatments, the uses of different labels and terms, and the variety of evaluative instruments all combine to make comparative analysis of the research literature difficult.

Feshback and Adelman (1974) cited the lack of consensus regarding the antecedents of academic deficiencies as contributing to the wide variety of remedial programs and the general pessimism in which they are held.

With the cost of education compounded by inflation, the projected decline in student population, the demands of the job market in a technical society and the problem of unemployment, the issue of effective and efficient education should certainly be a high priority. Enrollment caps and limited enrollment in professional programs make the selection of students who have the best chances of success a legitimate concern. Selection becomes more of a problem when two or three candidates are qualified for each opening whether the programs are compensatory, technical, or professional: to wit, the Bakke case. It is equally competitive for high-risk students seeking entry into quota or limited access programs (that have now been made accessible through Affirmative Action programs) when there is more than one high-risk applicant per opening. What criteria are valid for selection? One attempt to avoid charges of discrimination in selection has been to use the lottery system for those students who qualify for the applicant pool. Those students admitted and experiencing failure find it eroding to their self-concept and financially expensive (Smith, 1971; Gekoski & Schwartz, 1961).

Antecedents of academic success and predictors of success as well as characteristics of underachievers and dropouts have long been of interest to educators and psychologists (Kohn & Rosman, 1974; Hummel & Sprinthall, 1965). Alfred Binet's pioneer work in the measurement of intelligence was in response to the needs of the Paris school system in making judgements about the promotion and placement of school children.

The lack of success in academic pursuits and the causes for dropping out of school were once considered a natural consequence of the lack of intelligence. People who could not succeed were considered stupid. As social scientists expanded their concept of intelligence, this simplistic approach was no longer appropriate. I like Will Roger's quip about intelligence. He said, "Everyone's ignorant, only on different subjects" (Hallmark, 1969).

The inquiry of causality next took the direction along the line of the maladjustment continuum. With the emergence and expansion of the mental health movement of the late 40's and 50's, people who could not succeed were assumed to be in some way maladjusted. The psychopathological approach proved too restrictive and severe to be postulated as a theoretical base explaining the phenomena of dropping out and/or underachievement in school. Lacher (1973) found no significant differences on dimensions of psychopathology in underachievers. Crabbe and Scott (1972) in studying academic and personal adjustment pointed out, " . . . psychological adjustment constitutes a multi-dimensional phenomena in which adaption to one set of circumstances or according to one set of criteria does not predict the person's adaption in a different setting or from a different perspective" (p. 58). Pandey

(1972) found no significant differences regarding sex and race on the Minnesota Multiphasic Personality Inventory scores when investigating the personality disturbance hypothesis as differentiating between college students who dropped out and those who did not. Ashbrook and Powell, in 1967, did not confirm their hypothesis that the MMPI could identify college graduates from non-graduates. William's (1970) study of Personality, Ability, and Achievement Correlates of Scholastic Attitudes concluded personality maladjustment results from more than the inability to achieve academic success. He concluded, "it is evident that scholastic attitudes are not exclusively determined by academic successes and failures. Personality traits which a child brings to the academic setting also appear to be intricately related to scholastic attitudes" (p. 403).

When attempting to learn about the distinguishing characteristics of students who are unsuccessful and in attempting to account for the variance of predictive factors, researchers constantly find references to the non-cognitive factors. However, these non-cognitive factors are rarely specified, defined in degree or intensity, or explained in their interaction with other factors. Single factor explanations seem too simplistic for the complexities of human behavior. Dispenzieri et al. (1971) pointed out the lack of empirical knowledge about the relationship between the characteristics of high-risk students and academic success. He reconfirmed Morgan's 1952 study which was unable to confirm a clearly consistent pattern or indicator specific to underachievers.

Rose (1965) took the dropout research another step further by differentiating between defaulters, students who dropped out voluntarily and early in the school year, as opposed to those who dropped out due to academic difficulty. Barger and Hall (1965) in their study, Time of Dropout as a Variable, found evidence indicating that students dropping out during the last third of the trimester were failing and dropped out to avoid the stigma of failure on their records. Rose found defaulters and persisters differing in tolerance for confirmity, level of anxiety, and degree of social introversion. While the defaulter resembled the successful persister in amount of anxiety, he differed greatly from both the successful and unsuccessful persisters in his interests, social skills, and acceptance of authority.

Starr, Betz, and Menne's (1972) explanation of college attrition rates by the work adjustment theory states that students who are satisfied and are experiencing success tend to stay in school, while those students who are dissatisfied and unsuccessful tend to drop out. This theory fits some of the basic principles of behavioristic psychology. Panos and Astin (1968) surveyed 30,570 students and found 27% of these leaving college before graduation listed dissatisfaction with the school environment as the major reason for leaving school. Astin (1975), studying why college students drop out of college, found the most frequent reasons were boredom with courses (confirmed by ACT, 1977), financial conditions, dissatisfaction with the requirements and regulations, and a change in career goals, all of which tend to support the work adjustment theory of Starr et al. Williams (1970) found students dissatisfied with school obtained significantly lower scores on all ability, achievement, and personality variables. Arnholter, in 1956, found dropouts were poorly adjusted to their school situations because the schools did not help them meet their current social needs.

Gibson and others (1967) stated dropouts could be generally characterized as unwilling or unable to modify previous behavior patterns that were the cause of academic and social difficulties.

Weschler (cited in Kohn and Rosman, 1974) suggested, " . . . intellectual achievement is dependent to varying degrees, upon a variety of determinants which are more of the nature of connative and personality traits than other cognitive ability." Lehman (1962) felt cognitive variables accounted for about 40% of the variance in the prediction of grades. Binder et al. (1970) reported aptitude tests used as predictors of performance reach an asymtote of around .50. Miller and O'Connor (1969) found many students were able to meet stiff competition successfully despite low scores on the SAT. Losak (1969) found that 93% of a group of academically unprepared students obtained a full scale WAIS IQ score of average or above. However, a high percentage of the population needed some form of counseling to help them cope with psychological conflicts. Approximately 25% of these students were judged not to have the intellectual and emotional integration to profit from college unless the curriculum was modified to meet their needs.

Petry and Craft (1976) in a study of high-risk students attempted to assess the cognitive and affective domain to predict academic performance. Their review of the literature did not disclose any one non-intellectual variable cited enough to classify it as a first-order predictor. High school grade point averages and standardized test scores were cited as best predictors among the intellectual variables. They concluded that not enough research has been done to determine the best non-intellectual variables to predict success for the high-risk student.

Holland in 1959 found personality variables helpful in predicting a college student's grades. Packwood (1973) doubled the amount of variance accounted for in the junior college student's academic achievement prediction by using a motivation check sheet when he investigated non-intellectual factors. Rezler (1960) concluded that the value system of a student is not incidental to achievement in college and is a variable that has some power to differentiate between groups. Bruck and Bodwin (1962), in studying the effect of self-concept on academic achievement, stated that there is " . . . a growing evidence that underachievement is really the outcome of several interacting causal factors that exist both within and outside of the student" (p. 181).

Considering the magnitude of the problem and the effect it has on institutions and the lives of students that pass through the educational programs, the area of non-intellectual variables associated with succes for high-risk students seems relevant and practical to investigate (Nagle et al., 1976). If those parameters can be more clearly defined, then better screening and advisement can be affected and the knowledge can be used to design better curricula to meet the needs of high-risk or non-traditional students. Miller and O'Connor (1969) outlined the argument quite well. They said, " . . . the use of personality measures in student selection has been frequently criticized; if their use resulted in the rejection of otherwise qualified applicants, the force of the objection would be difficult to refute. If instead, they were employed to select among students who would be rejected on the basis of high school percentile rank and/or SAT scores, we are on firmer ground" (p. 115). One of the major purposes of testing is the attempt to objectify judgement and eliminate bias in the evaluation process. Tests are constructed to differentiate and accent individual differences. The difficulty enters in identifying the strength of causal relationships among factors and justifying the criteria selected.

After reviewing the literature in regard to special education programs and the research on the high-risk student, one is left with the impression that there is a lack of a systemized or comprehensive approach. Programs are general in nature, inconsistent in their approach, partial in their format and not designed around existing information.

Gowan and Demos (1966) felt enough information was available to design better compensatory programs and warned educators about reinventing the wheel and of being too interested in fads. They were concerned that we do not utilize the information available to us. Tieney and Herman (1973) and Lacher (1973) point out special programs should be differential, specific, and prescriptive. Bednar and Weinberg's (1970) and Calsyn and Kenny's (1977) research support this recommendation. Bednar and Weinberg surveyed the literature and identified twenty-three special programs reporting success in increasing the grade point average of disadvantaged students through special programs. When applying a three month to a year follow-up, the three programs judged successful or effective had all been intense and directive, and the academic component had an individual or group counseling experience included that was aimed at the dynamics of underachievement. Feshback and Adelman's (1974) three year experimental project concluded special programs had a better chance of being effective if they were comprehensive in format. Choi and Malak (1975) confirmed Kendrick's suggestion that "flunk outs" could be helped if programs were designed to meet the specific needs of minority students.

This present study was designed to look at three aspects of the high-risk student prior to his or her enrollment in a basic education program. The areas of self-concept, cognitive thought processes, and social values were chosen because of references in the literature to those dimensions. The overall research goal is to determine if there is a constellation of psychological attributes that are characteristic of and differentiate between successful and non-successful high-risk students.

The literature was examined in respect to studies dealing with the "underachiever," the "dropout," the "disadvantaged," the "low ability," and the "high-risk" student for personality characteristics that seem to distinguish them from their successful peers.

The research is replete with references to the influence of the non-cognitive factors and their contribution to academic achievement and success. It quickly becomes apparent that specific comparisons between studies are not easy. Differences in the population samples range from elementary school to graduate school subjects. Statistical treatments vary from simple percentages to discriminant function analysis. Evaluative instruments range from institutionally developed check-lists to the standardized instruments familiar to social scientists including projective tests (See Appendix A). A partial list of variables considered as non-cognitive are academic aspiration, socio-economic status, marital status, age, race, sex, employment, type of high school, reading level, ability to organize time, degree of parental interest, impulsivity, ego adaptiveness, perserverence, convergent vs. divergent thinking, pragmatism, social-emotional maturity, self-esteem, self-concept of ability, self-confidence, person vs. situation specificity, etc. The wide latitude of factors classified as non-cognitive contributes to the difficulty in comparing studies and reflects that a very complex problem is still in the definitive stage of its solution.

Crabbe and Scott (1972) concurred with Fielder et al. (1968) that the research reported high correlations only when the measures had a common source. Otherwise low correlations were the rule for across measure, i.e., self-esteem, ratings by others, objective test scores and an adjustment criteria all reflected a lack of consensus.

Part of the review of literature for this study included two computerized searches covering the topics, attitudes, values, personality characteristics, low-achievers, high-risk dropout and disadvantaged. A North Carolina Science and Technology Research Center Search in 1971, yielded twenty-two ERIC references, only two of which were useful to this study. Search Analysis, in 1977, reviewed ERIC and the Psychological Abstracts on the same variables and yielded nineteen references, only a few of which were of interest.

The literature does report general characteristics of high-risk students, although there is usually a contradictory study on each variable. Studies using the MMPI, Edwards Personal Preference Schedule, measurements of anxiety and dimensions of hostility all had counterpoise studies. Two reasons that might account for these seeming contradictions are the complex nature of the variables studied and the notion of aptitude treatment interaction. The idea of an aptitude treatment interaction refers to the possibility that the continual application or increase in any treatment or process may have a reverse effect from its initial intention or trend.

Individuals share some common characteristics, however, the great range of individual differences and complex combination of differences call for specificity of treatment.

Taylor (1964) investigated the relationship between personality traits and discrepant achievement. His review of the literature covered 1933 to 1963 with most of the articles occurring after 1950. The study identified high levels of anxiety, poor self-concept, difficulty with authority relations and interpersonal relations, an independence-dependence conflict, non-academic interests, and a poor goal orientation as characteristics common to underachievers.

Horrall (1957) and Roth and Myersburg (1963) found high-risk students had poor control of inner tension, difficulty in settling down, and exhibited high anxiety. Desiderato and Koskinen (1968) did not confirm that a high level of anxiety impaired academic achievement for women and attributed it to the effect of different social roles for men and women. They recommended the use of specific scales in further studies of anxiety. Some amount of tension and anxiety is always present in the homeostatic process of the person and necessary as a motivating factor. The question is how much and what kind? At what point does anxiety become debilitating and interfere with the learning process?

Pertaining to the dimension of anxiety, Stix (1967), in a forerunner to the aptitude treatment interaction effect, did not find anxiety level inversely related to complex learning. A moderate level appeared to be the optimum conducive to overachievement for females. Too little anxiety appeared to be more disruptive particularly when combined with extreme defensiveness. Stix's conclusion echoed Bindra's 1959 assumption that maximal performance may be associated with an optimal range level of arousal. Desiderato and Koskinen (1968) pointed out that while " . . . it is certainly not implausible that inadequate study habits develop quite independent of anxiety . . . , the latter can certainly emerge as a result of repeated experiences of academic failure due to poor study habits" (p. 165).

The problem of setting realistic goals as a characteristic of high-risk students was supported by Gerberich (1941), Lum (1960), Guggenheim (1969), and L. P. Smith (1969). L. Smith, in 1971, found 63% of the non-achievers changing their majors as compared to only 19% of the achievers. Gekoski and Schwartz (1961) found the dropouts knew less about program requirements, or of helping agencies than did those students who stayed in school. Only 22% of the dropouts knew their advisors, compared to 58% of the non-dropouts. This lack of social awareness suggested in Gekoski and Schwartz's study was mentioned by others, Taylor (1964) and Morgan (1952).

The self-concept dimension identified by Taylor was the most confirmed factor in the literature, perhaps because of its abstract and vague nature (Purkey, 1970; Treppa, 1973; Dowdle, 1977). Purkey in his review of self-concept and academic achievement states, "overall, the research evidence clearly shows a persistent and significant relationship between the self-concept and achievement" (p. 11). Sex differences do have an effect and the relationship is greater in the negative for the males. Racial differences appear to have no significant differences effect. There has been no explanation advanced for the differences for the effect of sex other than the inference to social conditioning and that is not clearly differentiated cross-culturally or socio-economically.

Why some students with good self-concepts fail is unexplained except that they may consider school irrelevant and do not try to succeed. The question comes to mind about how realistic is the individual's assessment of self and to what portion or role of self is he or she judging? What degree of transfer of success takes place from one role to another? A person may feel "good," "adequate" about himself in one sphere of his life and that may dominate his perception of other spheres of his self-concept. Bailey (1971) quoted three studies that found self-estimates inaccurate, but his study confirmed a discrepancy existed between self perceptions of achievers and non-achievers.

A common generalization is that disadvantaged persons have poor self-concepts. Kerensky (1967), Carter (1968), and Soares and Soares (1960) have challenged this and concluded factors influencing self-concept are more psychological than economic.

Calsyn and Kenny (1977) pointed out the conflict between the self-enhancement theorists and the skill-development theorists. "Self-enhancement theorists argue self-concept variables are primary causes of academic achievement while the skill-development theorists argue that self-concept variables are primarily consequences of academic achievement" (p. 136). Their cross-lagged panel correlational analyses of a five year longitudinal study did not support the self-enhancement position. The implication of the research support a more structured, specific and purposive type of curriculum for remediation (Trachtman, 1975). The philosophical conflict reminds me of the cartoon of a child standing between two teachers, one of whom is saying, "I teach mathematics," to which the other haughtily replies, "I teach children," and the child declares, "I hate school."

Motivation is frequently ascribed to or as a part of the self-concept, at least by phenomenologically oriented researchers (Wylie, 1961). In examining motivational aspects of successful and non-successful students, Weiner et al. (1971) found students judged high on achievement motivation believe they have greater ability than those judged low on achievement motivation. They were more likely to attribute success to themselves, to attempt more achievement activities, select tasks of intermediate difficulty, work harder, and persist longer in the face of failure.

Barger and Hall (1967) found students from different socio-economic levels were at different stages of psychosocial development, at least in how they see themselves and their environment. They felt it reasonable that the students from low income groups were more inner-directed, aspiring toward group norms and value systems with which they have had little social contact.

Bruck and Bodwin (1962) defined self-concept as (a) self-confidence, (b) freedom to express one's feelings, (c) liking one's self, (d) satisfaction with one's attainments, and (e) feeling of personal appreciation by others. Their study reported a .60 correlation between immature self-concept and educational disability. No cause and effect could be claimed as self-concept was used as a global measure. Variables of self (global) and ideal self simply lack sensitivity for psychological research (Miskimins, 1971). Students and researchers of self-concept variables should avail themselves of Wylie's comprehensive review of methodological considerations of measurement instruments regarding self-concept.

Many instruments of different kinds have been devised in attempting to measure self-concept. Its global nature can be interpreted into many expressions of role behavior relating to setting and circumstance. General self, student self, ideal self, academic self, self-esteem, self-perception of ability, and internal-external locus of control are but a few of the facets reported in the literature.

Fitts (1965) developed the Tennessee (Department of Mental Health) Self Concept Scale in response to the need for a scale that was simple for the persons taking it, widely acceptable, well standardized, and multi-dimensional in its description of the self-concept. The sub-scores are self-criticism, total score (self-esteem), identity, self-satisfaction, acceptance of behavior, physical self, moral-ethical self, personal self, family self, and social self. Different self-concept descriptions of high-risk and/or disadvantaged students in the literature made it apparent that an instrument reflecting specific components of self-concept would be of benefit in trying to find some differences between types of high-risk students.

Kisch (1967) challenged the homogeneous categorization of high-risk students and identified four different types of "underachievers" according to dynamics; (1) underachievers who are impulsive and seek out social interaction, who tend to be exhibitionistic and extroverted as a compensation for feelings of social inadequacy, (2) underachievers who are highly motivated, but socially isolated, angry and alienated;

reactionary to any press for conformity, (3) underachievers who are well adjusted but whose poor performance is probably the result of weak interest, and (4) a rigid type, conformist, with an insular non-intellectual orientation. He pointed out the potential of cluster analysis techniques as a more promising method of investigation in order to minimize over-generalizing small mean differences and providing a perspective to the variance within the selective population.

Garns (1967) identified the following themes common to underachievers: (1) strong identification with power, (2) conflict with authority, (3) rebelliousness, and (4) emotional passivity.

Gowan and Demos (1966) listed the common elements differing gifted students from underachievers as:

1. definitiveness of academic and occupational choice,
2. strong ego controls,
3. socialization and social interaction,
4. good use of time and money,
5. better at reading and arithmetic,
6. positive character integration,
7. permissiveness, intraception, and creativity atmosphere in home,
8. parents who were interested, motivated, and involved with the child,
9. some tension in task demands--reasonable goals required by parents,
10. maturity, responsibility, and seriousness of interests,
11. awareness and concern of others,
12. dominance, perserverence, and self-confidence, and
13. enthusiasm, socialized, and activity oriented way of life.

They observed these were traits of mentally healthy people and were behaviors, skills, and attributes connected with cognitive ego development. As the individual successfully completes each stage of development and growth, new strength, vitality and confidence is incorporated in the ego. Both Gowan and Taylor interpret the imposition of reasonable goals on the child by the parents as contributing to the development of self-control.

Krug (1959) found overachievers scored higher on achievement, order, and endurance than the underachievers who scored lower on affiliation and heterosexuality. Diener's study in 1960 confirmed only order on the Edward's Personal Preference Schedule in favor of the overachievers. Merrill and Murphy (1959) in a similar study found underachievers scored lower on exhibition, autonomy, affiliation, and change.

Wesley (1961) found high achievers experienced less tension in the home, were better understood by their family, not upset by dependency, less concerned over finances, had less illness, had better concentration, and used their time more wisely.

Williams and Cole (1968) found positive communication from parents relative to a child's ability led to significant increments in self-perception and grade point average, whereas communications from experts (teachers and counselors) did not.

The impression of an overachiever emerges as an individual who has a strong need to achieve, who can tolerate structure, and has "stick-to-it-ness." The need to achieve and excel comes through in a tendency to dominate and lead, but the score on deference reflects an acceptance of authority or a willingness to cooperate. The underachiever has lower scores on affiliation, heterosexuality, autonomy, exhibition, and change which suggests an individual insecure in his/her social relationships.

References are made in the literature to hostility, non-conformity, and the dislike for abstract thought as characteristics of high-risk students (Rose, 1965; Marsh, 1966).

Barger and Hall (1965) studying motivational differences of male college students on the MMPI and the Picture Identification Test found that low achievers differ from the high achievers with higher scores on aggression, autonomy, exhibition, dominance, and sex. The need pattern suggests the importance of independence, manipulation of others, fending for oneself, desire to be the center of attention and perhaps self-indulgence. They did not interpret the hostility dimension as aggression but rather as assertion of self. When attempting to interpret such studies for comparative purposes it is easy to see why it is important to identify degrees of a dimension or variable. Ashbrook and Powell (1967) using the MMPI found no distinction between graduates and non-graduates and concluded more refined analysis would be necessary to identify differences, if they do in fact exist. Morgan (1952), studying high ability students who did not achieve as compared to those who did achieve, found the non-achiever's MMPI scores significantly different on two scales: a high point for Pd (psychopathic deviate) and a low point on Pa (paranoia). However, considering the absolute magnitude of the scores compared to group means felt there was no significant differences between groups, only that the non-achiever's pattern might suggest insensitive, callous, self-centered and irresponsible behavior.

Often the generalization is made that disadvantaged and black are synonomous; however, the literature reports socio-economic status as being a more significant determinant of academic achievement than race (Ashbrook & Powell, 1967; Feshback & Adelman, 1974; Hall, 1969; Ikenberry, 1961; Jackson, 1967). Jackson found an interaction between race, sex, socio-economic status, and type of material to be learned, but the socio-economic status accounted for most of the variance observed. Katz (cited in Weiner et al., 1971) described low achieving black boys as having internalized mechanisms for self-discouragement. The socialization process they experienced structured self-defeating behavior patterns. Hall (1972) recognized an internalized need to achieve (intent) does not always translate into behavior patterns for the low socio-economic individuals. This may be the reason for structure, specificity, and role models as important elements when attempting to help individuals overcome deficiencies or in learning new behaviors.

The impression one gets of a high-risk student is that of individuals who have weak family or social support systems and lack realistic role models with which to identify. Gurman (1970) found a lack of good role models as a characteristic. Consequently, they do not feel adequate in social relationships, are self-conscious, lack self-confidence, and are fearful of rejection. Powell and Jourard (1963) found underachievers insecure, immature, and unable to form warm interpersonal relationships. The family never exhibits enough love and guidance to satisfy the high-risk individual's emotional needs. Their consequent feeling of aloneness creates a diffuse anxiety and motivates them toward self-centeredness. Hence the tendency to manipulate others, to need attention, and to be inappropriately assertive. Observations of these students suggest an inquiry into their rate of absenteeism and incidence of illness neither of which were reported in the literature. Only Lacher (1973) made a reference to attendance. Their need to live and focus on the present undermines the opportunity to develop medium or long range goals and exercise skills in abstract thinking. Their lack of skills creates a need or intensifies the need of dependence on their families. This only intensifies their feeling of inadequacy and frustration which manifests itself as resentment, they perceive a loss of individuality and it is expressed as a resistance toward authority and a focus on self.

CHAPTER THREE

METHOD AND PROCEDURE

Some basic assumptions were made in regard to the Basic Education Program of this study: (a) homogeneity of subjects--by definition of the criteria for admission to the program, (b) the program (enrollment in special classes) is a relatively standardized experience, (c) the program effect is primarily in the cognitive domain, (d) connative and affective change is not dealt with directly or prescriptively, (e) the self-concept or personality structure is resistant to change (Combs and Snygg, 1959; Carnes, 1973; Levi, 1950), and (f) the psychological characteristics or predispositions contributing to success existed prior to the student's experience in the program (Carnes, 1973; Conary, 1966).

The majority of the remedial programs are of short duration, one or two terms in length. Some students stay in the programs longer by virtue of repeating courses. The majority of high-risk students complete the programs in one term without having to repeat the fundamental courses. In doing so, they demonstrate remarkable gains over past deficiencies.

The basic tenet of this study is that certain psychological determinants which are part of the personality structure predispose the individual to success or failure (Combs and Snygg, 1959; Rav, as cited in Carnes, 1973).

The implication stemming from this proposition is that unless the educational experience is structured to address those factors contraindicative of success, little change will take place (Losak, 1972).

If the probable non-successful high-risk student after enrolling in college finds the experience much like their experience in high school, then in accordance with the work-adjustment theory regarding attrition, they will simply drop out of college and become another educational statistic.

To determine whether differences existed among types of high-risk students prior to their program experience, it was necessary to obtain measurements of their characteristics prior to their entry and later compare their scores as their performances differentiated group membership. A causal-comparative design was chosen to identify some descriptive characteristics ex post facto. The design is similar to the One Shot Case Study Design in Campbell and Stanley (1963). It is a quasi-experimental design because of the lack of random selection of subjects, non-manipulation of the independent variables and certain threats to validity as described by Campbell and Stanley. Although this design does have some inherent weaknesses, most of them did not seem to pose a serious threat to the purpose of this study.

Testing was administered by the author to better control the testing situation. Instrumentation was not considered a threat as there was only one battery of tests administered, and the test session was incorporated into the student's regular orientation to college. A possible threat to validity or a weakness in this study is the construct validity of the psychological instruments selected. It is possible the instruments selected do not measure the attributes with enough precision, or that the attributes selected for examination are not distinctive enough in their effect because of confounding with other non-specified variables. Only by field testing and cross-checking various instruments with similar populations can we define their appropriateness.

The violation of randomness, the key to scientific experimentation, was done because the size of the population was small enough to include all students fitting the descriptive criteria.

The hypothesis is that the F ratio for all group comparisons by discriminant function will exceed the $p = .05$ value. The group comparisons will be between the following: successful versus non-successful, successful versus potentially successful, and the potentially successful versus the non-successful.

The variables chosen for measurement covered dimensions of self-concept, value orientations, and cognitive styles. The psychological instruments chosen for the test battery were selected because they had been used in similar studies. They were also standardized, untimed, self-reports, brief, readable, and inexpensive. All of the tests had good reports regarding construct validity and seemed to relate to some of the variables suspected to differentiate high-risk students from the general population. The basic question is whether they will differentiate among high-risk students.

The first instrument chosen was the Tennessee Self Concept Scale. It is an untimed, brief instrument containing 100 self-descriptive statements and readable at the sixth grade level. Its reliability is reported at .99, using a shortened version of the scale. The TSCS manual reports several references to articles dealing with validity, using procedures of correlation with other personality measures, content validity, discrimination between groups, and personality changes within subjects under particular conditions. The scale reports on ten measures of the self-concept:

1. A self criticism score which reflects a measure of defensiveness.
2. An overall total score which reflects self esteem.
3. An identity measure--what you are as you see yourself.
4. A self satisfaction measure.
5. An acceptance of behavior--the way you feel about how you behave.
6. A measure on how you feel about your Physical Self.
7. A measure on how you feel about your Moral-Ethical Self.
8. A measure on how you feel about your Personal Self.
9. A measure on how you feel about your Family Self.
10. A measure on how you feel about your Social Self.

The second instrument of the battery was the Watson-Glaser Critical Thinking Appraisal. Crites (7th Mental Measurement Yearbook, 1965) agrees with the Watson-Glaser manual that the test is internally consistent. Crites questioned the range of the test for senior college students, but that range question posed no problem for the high-risk student. He agreed the tests appears to measure not only general intelligence but also certain logical reasoning abilities. It seems adequate for the appraisal of critical thinking at the secondary school level and freshman year of college. Little is known about its stability over time and its usefulness as a predictor, but its internal consistency is high, and its concurrent validity is acceptable. He endorsed it for educational assessment, selection and research situations. The behaviors tested are spelled out, thus eliminating many ambiguities that usually exist in test manuals. It has been used in similar studies attempting to differentiate successful and unsuccessful students in specific subject matter areas. Williams and Cole reported .62 r $(p < .001)$ between scores on the TSCS and those on the California Test of Personality; and between self concept and mental ability, .31 r $(p < .01)$; self concept and reading, .31 r $(p < .01)$ and self concept and math achievement, .33 r $(p < .01)$.

Choi and Malak (1975) in studying the poor performance of college students listed in rank order of importance the variables faculty felt were the most characteristic of unsuccessful students:

1. Inability to synthesize factual and conceptual principles.
2. Inability to apply principles in analogous situations.
3. Inability to perform adequately on major exams.
4. Inability to write effective essays.
5. Failure to attend class regularly.
6. Inability to complete assignments on time.
7. Inability to comprehend conceptual principles.

The Watson-Glaser Critical Thinking Appraisal instrument seemed the most appropriate one available to measure processes fundamental to academic success. It contains 100 items and is untimed. It is readable at the nineth grade level of education and contains problems, statements, arguments, and interpretations a person might encounter in everyday life. It reports the five following facts:

1. Inference. A conclusion drawn from certain observed or supposed facts. It samples the ability to discriminate.
2. Recognition of assumption. The ability to select pertinent information for the solution of a problem.
3. Deduction. Samples the ability to reason deductively from given statements or premises.
4. Interpretation. The ability to formulate and select relevant and promising hypotheses.
5. Evaluation of arguments. The ability to draw valid conclusions and to judge the validity of inferences.

The third instrument chosen was the Allport-Vernon-Lindzey Study of Values. This information was developed in 1931 with its latest revision occurring in 1960. It was based on Edward Spranger's book, Types of Men. Spranger believed you could understand man more by his intentions than his achievements. It is a brief, untimed, self-scoring instrument. Its split half-reliability coefficient using the "z" transformation was .89 after one month and .88 after a two month interval. The instrument was normed on college populations. The manual referenced six studies of indirect validation. In the review of literature several other studies had used the Allport instrument (Mazak, 1967; Murphy, 1960; Thomas, 1970).

The scores reported are measures of six types of value orientation:

1. Theoretical. The individual exhibits a high need for order, likes to systematize his knowledge, takes a cognitive attitude toward life, searches for identities and differences, is critical, empirical and rational.
2. Economic. Practicality and utility are the judging criteria of his value system.
3. Aesthetic. Keen interest in form and harmony, symmetry and grace, and tendency toward individualism because of the personal meaning of beauty characterizes this type of individual.
4. Social. This person is characterized by kindness, unselfishness, and is genuinely interested in others.
5. Political. This type person is motivated by the need for power, challenge, and competition.
6. Religious. The highest value of the religious man is unity, the need to comprehend the cosmos as a whole, with a tendency to be mystic and philosophical.

Gage (cited in the 5th Mental Measurements Yearbook, 1959) on the Allport-Lindzey found the values measured by it the most stable of the five kinds of variables (vocational interest, self ratings, attitudes, Bernreuter, and Strong) over a period of twenty years.

The ipsative nature of the test makes interpretation more difficult, and there is a lack of definitive statistical information as to whether or not the sex measures are unidimensional and relatively distinct. Hundleby (1965) finds it satisfactory for college populations (6th MMY). Radcliffe cited (6th MMY, 1965) the ipsative nature of the test had discouraged correlation studies with other tests, but that it has satisfactory reliability, both split half and internal consistency. It is satisfactory for group use and has proved to differentiate between many types of groups, i.e., gifted, high academic productivity vs. low productivity, leaders, nationality, religion, and changes in values from freshman to senior status. Hogan (7th MMY, 1972) points out there is little doubt the AVLSV taps something significant. Feldman and Newcomb (1969) stated the instrument provides the best single source of information about value changes during the college years. In spite of problematic features, difficulties interpreting correlations of subscales across persons and a restricted range of usage, it is a surprisingly viable test and with cooperative subjects it provides dependable and pertinent information concerning individual cases.

All new students must attend an Educational Planning Session. This is an orientation to college, conducted in small groups of 15 to 20 students. The planning session consisted of having the students write a short autobiographical essay, complete the testing battery, view a 35 mm slide presentation about the college and its programs, and have a personal interview with a counselor to confirm their classes for the forthcoming semester. Students are assigned to planning sessions as they apply to college. Those students who had scores less than the 30th percentile on Florida Twelfth Grade Placement Test or who were missing test scores and had less than a 2.0 grade point average in high school academics were all scheduled together. This permitted time for special testing and a more detailed explanation of the college's programs, especially the Basic Educational Program. The author conducted the four planning sessions for these students identified as high-risk. The author also administered the test battery to better control for reactive effects in the testing situation. The testing situation was treated as though it were a routine part of being admitted. The students were advised that the information would be useful to their counselors in helping the counselor to know them better and for their own self-knowledge and use in the advisement and counseling process.

The Basic Education Program was comprised of five courses: English Composition, Basic Mathematics, American Institutions, Developmental Reading, and Personal Development. Students were enrolled in these courses on the basis of their high school grades, standardized test scores, and an expressed interest on their part. The courses were not open to students of average or higher abilities. However, because of the emphasis on individuality, the Basic Education population was never totally "pure" in regard to test score criteria. Some students could have an above average test score total but have a low sub-test score in one area and consequently be registered in the course that met a particular need. Conversely, students with low scores did not always register in the full package of fifteen semester hours because of scheduling problems. Other introductory courses or electives appropriate to their interests or program requirements rounded out their schedules.

All entering freshmen who scored below the 30th percentile on the Florida Twelfth Grade Placement Test were identified as high-risk students. The total score of 150 represented an average score of the 30th percentile on each of five sub-tests: aptitude, English, social studies, science, and mathematics.

A total of 73 students were identified as high-risk students. Twenty-five of those students completed their programs and graduated; they were considered successful. Forty-eight of the group dropped out at varying points and were classified as unsuccessful. Among the students classified as unsuccessful there was a wide range of performance on grade point average and the number of semester hours completed. Nine of the unsuccessful group had over 33 semester hours earned with a 2.0 grade point average or higher. They were considered as a unique group different from the unsuccessful and classified as "potentially successful." They could have fit Rose's definition of a defaulter or been an example of the work adjustment theory option to drop out, because schooling afforded no pay-off or positive feedback. Although the criteria of grade point average and semester hours are not mutually exclusive and independent variables, combined they represent the general criteria of success throughout the educational system. The performance of the "potentially successful" group represented success inasmuch as they had maintained sufficient grades to continue in college and had performed satisfactorily in college courses other than those in the Basic Education Program.

The sample had 33 males and 40 females and the breakdown according to race was 38 blacks and 35 whites (See Appendix M).

An estimate of intelligence on each student in this study was taken from the correlational studies of the Watson-Glaser Critical Thinking Appraisal and the Otis Mental Ability Test. On a sample of 20,312 high school students' in grades 9 through, 12 the average correlation was .75. Comparing the high-risk students Critical Thinking score to the corresponding Otis Gamma IQ the following distribution resulted:

Distribution of Otis Gamma IQ Scores

<table>
<tr><th>IQ Scores</th><th>Successful Group</th><th>Non-successful Group</th></tr>
<tr><td>125-130</td><td></td><td></td></tr>
<tr><td>120-124</td><td>x</td><td>xxx</td></tr>
<tr><td>115-119</td><td>x</td><td>xx</td></tr>
<tr><td>110-114</td><td>xx</td><td>xx</td></tr>
<tr><td>105-109</td><td>xxxx</td><td>xxxxxxxx</td></tr>
<tr><td>100-104</td><td>xxxxxxxx</td><td>xxxxxxxx</td></tr>
<tr><td>95-99</td><td>xxx</td><td>xxxxxxxxxx</td></tr>
<tr><td>90-94</td><td>xx</td><td>xxxxx</td></tr>
<tr><td>85-89</td><td></td><td>xx</td></tr>
<tr><td>80-84</td><td>xx</td><td>x</td></tr>
<tr><td>75-79</td><td>xx</td><td>xxxxx</td></tr>
<tr><td>70-74</td><td></td><td></td></tr>
<tr><td>No Score</td><td colspan="2">xx</td></tr>
</table>

Twelve of the seventy-three students or sixteen percent scored less than eighty-nine as an equivalent IQ score, and four of those were in the successful group. It is the opinion of this author and the literature would tend to support the hypothesis that the problem of the high-risk student being successful lies more with psychological determinants than with intelligence.

CHAPTER FOUR

RESULTS

The data were analyzed using a discriminant function analysis procedure. A discriminant function produces a regression equation with the dependent variable representing group membership (Kerlinger, 1973). With only two groups discriminant function analysis amounts to multiple regression analysis with the dependent variable taking on the values of one and zero. Discriminant function analysis has the latitude to analyze several measures for both the independent and dependent variables.

There are twenty-one independent variables and one dependent variable in this study, the later being group membership. The dependent variable is represented by a vector of one or zero and the regression is solved in usual fashion. The resulting equation, the discriminant function, maximally discriminates the members of the sample to the group each member probably belongs.

The canonical correlation is a multiple regression analysis with k independent and m dependent variables. The basic idea is that through least squares analysis two linear composites are formed and the correlation between the two composites is the estimate of the strength of the relationship, the canonical r (Kerlinger, 1973). However, canonical correlation must be interpreted cautiously because regression weights vary or fluctuate between samples and the canonical correlation represents a composite.

An additive step-wise entry of variables was done in order to determine which variable was the strongest in differentiating between the groups and which combination of variables was the best for identifying group membership. The single strongest variable is entered first and then the second strongest variable is added to the first and so on. Because of the complexity of the personality and the nature of the study, no single variable was expected to emerge as a differentiating factor.

A correlational matrix was performed to determine the amount of overlap or interference the various variables had with one another. If some of the variables had a high correlation and were tapping the same psychological factors, then one of them could be eliminated without jeopardizing the study. The consequent reduction of the degrees of freedom by reducing the number of variables would have strengthened the statistic.

The different criterion groups were then identified and a discriminant function analysis was performed on the various groups comparing one against the other.

A further adjustment within the discriminant function analysis was implemented by changing the prior probability entered. A 50-50 probability means the individual has an even chance of being assigned to either group; the group assignment being determined by the differentiating capacity of the variables. However, if prior information is available to the researcher that a 50-50 probability is not characteristic of the group assignment the probability may be altered to a more realistic estimate of the probability. The probability of high-risk students being successful in higher education could easily be expected to be as low as 33% or 25%. The data were examined using each set of probabilities to check that effect on group membership. The 50-50 probability was selected for the general analysis of the data in order to enforce a conservative interpretation.

A follow-up was done after three years and the high-risk students were separated into two groups, the successful and the non-successful, by virtue of their successful (2.0 or higher grade point average) completion of their degree or program requirements.

The twenty-five students who completed their educational goals and received their degrees were classified as successful. The forty-eight students who did not complete their programs were classified as unsuccessful. See Appendix C for a scattergram of grade point average earned and semester hours earned by the high-risk students. Of the forty-eight students not completing the program or degree requirements, nine had grade point averages over 2.0 and had earned more than thirty-three semester hours. By their performance they indicated successful adaptation to academic life. This small sample was identified and considered as a group, "potentially successful." The basic research question is whether there are any psychological characteristics common to each group that would differentiate them one from another.

The psychological instruments used in this study provided twenty-one sub-tests or variables for the population. A twenty-one by twenty-one correlational matrix was calculated using the SAS program to identify the degree of relationship among the variables. The purpose was to determine whether or not to use all of the variables as opposed to using only a few of the predominant variables in the discriminant function analysis. The correlational coefficients were of a low range and not significant between the three instruments indicating they were measuring different attributes. There were high coefficients among the sub-tests of the individual instruments indicating the sub-tests were measuring dimensions of the characteristics unique to the purpose of the instruments. It was determined to keep all twenty-one sub-tests in the discriminant function even though it increased the degrees of freedom and decreased the power of the statistic. This decision was influenced by the original intention of the research to identify a constellation of attributes. See Appendices D, E, and F for inter-test correlations and Appendices F, G, and H, for intra-test correlations.

First Discriminant Function Analysis Between the Successful and Non-Successful Groups

The Statistical Package for the Social Sciences (Nie et al., 1975) program for discriminant function analysis was utilized in analyzing the data. The overall $\underline{F} = 0.395$ with 1/21 degrees of freedom did not exceed the $p = .05$ level and the hypothesis was rejected.

The canonical correlation of .55 explained 30% of the variance by group membership and 75.34% of the cases were correctly identified. The first variable entered in the step-wise regression was Interpretation (Watson) as contributing the most in differentiating between the groups; however, it was not significant as a single measure. The Social variable (Allport) was the second variable in the regression equation. The third variable, Aesthetic (Allport), in combination with the first two variables differentiated between the groups. See Table 1 for the listing of the contributing variables in order of their strength. The variables resulting from the step-wise analysis were weak with no specific testing instrument emerging dominant. The Allport instrument contributed four variables and both the Watson and Tennessee each contributed two variables in the step-wise regression solution.

Second Discriminant Function Analysis Between the Successful and the Potentially Successful Groups

The overall F = 0.46 with 1/21 degrees of freedom did not exceed the p = .05 value and the hypothesis was rejected.

The canonical correlation of .789 represented 62.2% of the variance by group membership and 88.24% of the cases were correctly identified.

Only two of the twenty-one variables differentiated between the two groups and were strong enough to enter the step-wise regression solution. Deduction (Watson) entered first with a calculated significance of .013 thereby indicating enough strength to distinguish between the groups. The second variable, Social (Allport), entered and in combination with Deduction lowered the significance to .006.

Third Discriminant Function Analysis for the Potentially Successful and Non-Successful Groups

A third discriminant function analysis was done comparing the potentially successful and the non-successful groups. A 50-50 prior

TABLE 1

Step-wise Ordered Discriminant Function Variables for the Successful and Non-Successful Groups

Test	Sub-test	F	Calculated Significance	d/f	Table value
Watson	Interpretation	2.88	.094	1/71	3.98
Allport	Social	2.41	.097	2/70	3.13
Allport	Aesthetic	2.97	.038*	3/69	2.74
Tennessee	Self-satisfaction	2.58	.044*	4/68	2.52
Tennessee	Self-criticism	2.89	.020*	5/67	2.36
Watson	Recog. of Assumption	2.67	.022*	6/66	2.23
Allport	Theoretical	2.53	.023*	7/65	2.15
Allport	Political	2.37	.026*	8/64	2.09

*P = .05

TABLE 2

Step-wise Ordered Discriminant Function Variables for the Successful and Potentially Successful Groups

Test	Sub-test	F	Calculated Significance	d/f	Table value
Watson	Deduction	6.96	.013*	1/32	2.82
Allport	Social	6.11	.006*	2/31	3.31

*p = .05

probability was set and the resulting F = .239 with 1/21 degrees of freedom did not exceed the p = .05 value and the hypothesis was rejected.

The canonical correlation of .713 reflected 50.8% of the variance between the groups by group membership, and 87.5% of the cases were correctly identified.

The discriminant function produced seven variables in the step-wise solution, the first being Deduction (Watson) which had a calculated significance of .078 in its contribution toward accounting for variance between the groups. The second variable entered was Identity (Tennessee) which greatly enhanced the power of differentiation with a combined calculated significance of .011. Of the seven variables entered step-wise four of them were from the Tennessee Self Concept Scale and two from the Watson-Glaser Critical Thinking Appraisal with the remaining one variable, Aesthetic, from the Allport-Vernon-Lindzey Study of Values. See Table 3 for the list of the contributing variables in order of their strength.

TABLE 3

Step-wise Ordered Discriminant Function Variables for the Potentially Successful and Non-Successful Groups

Test	Sub-test	F	Calculated Significance	d/f	Table Value
Watson	Deduction	3.25	.078	1/46	4.06
Tennessee	Identity	4.95	.011*	2/45	3.21
Tennessee	Personal	5.60	.002*	3/44	2.82
Allport	Aesthetic	6.27	.000*	4/43	2.60
Tennessee	Acceptance of Behavior	5.61	.000*	5/42	2.44
Tennessee	Moral-Ethical	5.11	.001*	6/41	2.33
Watson	Interpretation	4.58	.001*	7/40	2.25

p = .05

CHAPTER FIVE

DISCUSSION AND RECOMMENDATIONS

In all three discriminant function analyses, the successful versus the non-successful, the successful versus the potentially successful, and the potentially successful versus the non-successful, the overall _F_ ratios were not significant and the hypothesis that the difference between groups would exceed $p = .05$ was rejected.

However, in the step-wise regression solution some of the variables combined with others sufficiently enough to differentiate between groups.

Further, the canonical correlation accounted for a reasonably high (30%, 62.2%, and 50.8%) amount of the variance between the different groups.

Also with the 50-50 prior probability entered, the percent of cases correctly identified as to group membership was 75.3%.

Even though no single instrument emerged as predominant in its ability to differentiate between groups, several sub-tests suggest a more carefully designed investigation as to their potential as critical variables in a constellation of characteristics.

In comparing the successful to the non-successful groups, Interpretation was the first variable entering the step-wise solution thereby indicating it was the strongest single variable contributing the most to the variance between the groups. It wasn't strong enough as a single measure to make the _F_ ratio significant but it was the first.

Later in the step-wise the Recognition of Assumptions also entered contributing to the differentiation. These two cognitive variables in combination with four value variables and two self-concept variables did differentiate between the two groups.

The ability to handle abstractions and understand symbols is taken for granted in academia. To expect a difference between successful and non-successful high-risk students in the area of cognitive ability would seem a common sense expectation. The literature is not specific in identifying the difference in mental processes and strategies of the high-risk students. Jackson (1967) in studying differences in reasoning ability between races found (a) whites scored higher than blacks on tests of convergent thinking, (b) middle-class individuals scored higher on convergent thinking than lower-class independent of sex or race, (c) females scored higher on convergent thinking independent of race or class, and (d) there was an interaction effect on divergent thinking related to sex, race, class and type of material. Males scored higher on mathematical divergent thinking and females did better on verbal and symbolic convergent thinking.

The latest research in cognitive styles reported by Educational Testing Service (Mixed Results, 1978) found the evidence inconclusive and reported the need for continued systematic research in the area.

Unfortunately, the Watson-Glaser Critical Thinking Appraisal does not report norms on sub-tests so comparisons between the high-risk group and the normative population of the instrument is not available. The authors of the WGCTA do not recommend the use of sub-scores individually but endorse their use for the analysis of types of thinking between groups.

In Interpretation, students must isolate facts, and make an evaluation of their relevance based on similarities and/or differences. In the Recognition of Assumptions, students must recognize pre-suppositions taken for granted in the given statements. The mental processes of identification and judgement are similar to tasks required in interpretation.

The only differences thatappeared in the step-wise between the successful and the potentially successful were Deduction, a cognitive variable, and the Social (Watson) value variable. Deduction also appeared as the first variable in the discriminant function regression between the potentially successful and the non-successful. The cognitive skills involved in deduction may hold a clue regarding the differences in thinking strategies between the successful and the non-successful high-risk student. In Deduction, a student must be able to analyze the specific from the general premise--a process of identifying common elements in a descending order.

In considering the different sub-tests of the Watson-Glaser (Inference, Recognition of Assumptions, Deduction, Interpretation, and the Evaluation of Arguments) all of which attempt to measure different aspects of the cognitive domain, there may be some general similarities in their individual approaches. For instance, in inference we are asked to draw conclusions, a task that might accommodate random guessing, or trial and error strategies. In evaluation of arguments, students must judge the validity of inferences. Opposed to these two cognitive aspects are the analytical tasks required in deduction, interpretation, and the recognition of assumptions, all of which might be considered more thoughtful, deliberate, and complex. Is there a heirarchy of styles or levels of complexity in thinking, speculative versus analytical, convergent versus divergent, that becomes habituated and influenced by an individual's emotional make-up or personality.

Only two Tennessee Self Concept Scale sub-tests, Self-satisfaction and Self-criticism, entered in the step-wise solution between the successful and the non-successful groups. The means for the high-risk students, collectively or by sub-groups, were all lower than for the TSCS normative population. However, the standard deviations of the high-risk groups in all the sub-tests of the TSCS were large and many of them were double the standard deviations of the general norming population, which reflects a wide range in the individual scores. It would be interesting to learn if the extreme scores were a random event or a characteristic of those students comprising a unique sub-group. In the potentially successful and non-successful group comparison, four of the self-concept variables entered in the step-wise solution. They were identity, personal, acceptance of behavior, and moral-ethical self in that order. Identity was the second variable entered and was strong enough to drop the calculated significance from .078 to .011. Fitts (1965) described identity as "what you are as you see yourself."

In academia where positive feedback is in the form of grades and those rewards being limited by a "bell-shaped curve philosophy," high-risk students with twelve years of poor school achievement certainly have a foundation for doubt about their potential and probability of success. It is interesting to note one of the first suggestions of the program planners for high-risk students is the modification of the grading process with either a time extension mechanism or a fail-safe, non-punitive scheme. High-risk students not possessing the skills to acquire grades find the educational experience in college much the same as high school and experiencing the reinforcing cycle of frustration simply stop attending school. Just because an individual cannot achieve or acquire academic success does not mean it is not valued; on the contrary, because of its inaccessability it becomes over-valued, but not pursued (Katz, 1967; Hall, 1972). High-risk students often express unrealistic goals and score high on deference, as found by Merrill and Murphy (1959).

The non-successful group reported a much lower score on self-satisfaction than the successful group, a not surprising result for a population identified by their inability to achieve success in an academic environment. Both groups had approximately the same score on self-criticism which was lower than the general population. It was interesting to note that none of the special measures of self, i.e., family, social, or physical, entered in the step-wise solutions.

If an individual's value system influences attitudes which in turn shape behavior, what are the differences in the value systems of those students who are successful and those students who are not? Do they all hold the same global values but lack the skills and means of implementing their beliefs? Or do they really hold beliefs significantly different from one another, and if so, in what areas? The high-risk students are products of a mandatory educational system that espouses the cultural ideals and general social values. The step-wise regression of the successful versus the non-successful reported four of the six Allport-Vernon-Lindzey Study of Values sub-tests, Social, Aesthetic, Theoretical, and Political, in that order.

Although the values orientation tends to be highly reliable and has power to differentiate between groups, it does pose some problems in interpretation because of its ipsative nature. Allport et al. (1970), purport these measures to estimate the following value orientations: Social, characterized by kindness and interest in others; Aesthetic, an expression of harmony, asymmetry, and individualism (as opposed to the abstract); Theoretical, as a need for order and specificity; and Political, as an expression of the practical. All of these variables for the total group were lower on mean scores than the general population with the exception of the Social variable.

The values profile suggests a motivational pattern high on order, practicality (non-abstract) and other-directedness (social).

The literature indicates the area of interpersonal relationships (authority, family, heterosexuality) as problem areas for the high-risk students. Perhaps we see an over-compensation in operation. The approach-avoidance conflict associated with the interpersonal arena is rarely resolved satisfactorily and it might set the motivational pattern for the high-risk student. They, like everyone, desire recognition and acceptance but they experience considerable anxiety about interpersonal relationships due to lack of skills from poor modeling and past experiences. The question of modeling needs to be clarified and investigated for not all high-risk students have had poor role models.

If the student feels unsuccessful, rejected, and inadequate, it might manifest as a strong interest in and need for social acceptance. The influence of the peer group has been well documented. Not to belong and to lack the skills and attributes to be "in" with the peer group is a source of anxiety and origin of aloneness. This anxiety and high drive can initiate the inappropriate demands on relationships which make efforts at friendship difficult and self-defeating.

When comparing the successful and potentially successful groups, none of the value variables appeared in the regression solution indicating no difference between the groups on these measures. When comparing the potentially successful and the non-successful groups, only the Aesthetic variable entered the regression from the values group and the mean scores were approximately the same on that variable. The differences between these two groups centered on the self-concept variables. If the high-risk student has a weak family and/or social support system (Wesley, 1961) and tends to internalize their defenses and feelings (Powell and Jourard, 1963) then concern with self is not a surprising result.

In looking at the percentages of the high-risk students on the success-non-success dichotomy by race and sex an interesting result emerged. See Appendix M for the breakdown of the group by success, race and sex classification. Overall only 34% succeeded, 48 of the 73 high-risk students did not complete their pgorams or degrees. Looking at the breakdown by sex, 42% of the females were successful as compared to only 24% of the males. Separating the group by race, 47% of the blacks were successful as compared to only 20% of the whites. Comparing the successful on both characteristics, the black females had the highest percentage of success with 55%; black males were second with 27%; white males were third with 23%; and white females were lowest with only 15%. These percentages suggest to the author the impact of sub-culture role-modeling values. Further research might look at the differences between the sub-groups, i.e., successful versus non-successful within groups, i.e., black females, white males, etc.

Since high-risk students by definition had a poor record of academic achievement, their probability of continuing in that pattern was expected to remain high. When establishing a 50-50 probability the discriminant function identified 77% of the cases correctly which is an improvement over chance. Increasing the probability to 67-33 the correct identification of cases increased to 87% for the non-successful student. Raising the probability still higher to 75-25, a not unrealistic expectation, the discriminant function correctly identified 95% of the non-successful cases. However, as the probabilities were increased and the correct identification of the non-successful student increased, the amount of Type I error for the successful high-risk student increased, because by increasing the probability you bias the discriminant function in favor of one of the groups. When correctly identifying 95% of the non-successful group members, you misclassified 66% of the successful high-risk students.

Table 4

Percentage of Cases Correctly Classified by Altering the Prior Probabilities of Membership

	50-50%	67-33%	75-25%
Non-successful group	77.1	87.5	95.8
Successful group	72.0	40.0	32.0
Overall classification	75.3	71.2	73.9

For a remedial education type program it would seem a Type I error would be acceptable especially since the differentiating variables between the two groups are pervasive, diffuse, accumulative, and reinforcing. For instance, what is the interaction effect in the social value variable of self-confidence, heterosexual relationships, anxiety, aggression and motivation? A program or course designed to examine and modify central conflict issues could be equally beneficial to those high-risk students who already possess to some degree the attributes common to successful high-risk students.

The psychological instruments used in this research did contribute some sub-tests that differentiated between the groups consistent with the themes reported in the literature. None of the tests were strong enough individually but rather different sub-tests combined to effect a differentiation between groups. To determine whether or not there is a definite constellation of psychological attributes characteristic of the non-successful high-risk student needs more systematic investigation. The author concurs with Kisch (1967) that the multi-dimensional approach of non-cognitive attributes is an area of promising research.

I would recommend replicating this study to confirm the preliminary findings. In using the instruments of this study I would suggest subtracting one-half of the standard deviation of the mean on the sub-test scores and using them as a referent criteria for predictive purposes (See Appendix K for the suggested criteria). In analyzing the data I would limit the entry of criterion variables to those of this study that indicated some discriminating power rather than to include all variables.

Secondly, along the lines of inquiry of this problem I would suggest systematically using different batteries of instruments designed to measure characteristics reported in the literature as definitive of high-risk students (See Appendix L for compilation of such characteristics).

Thirdly, a clarification and validation of characteristics associated with the non-successful high-risk student could form a basis and outline for a psychology type course (one of the components of many basic education programs) directed at the problem and conflict areas of these students. A recent, preliminary survey of these courses in the Florida community colleges by this author does not indicate a prescriptive approach is being utilized at present.

APPENDIX A

LIST OF PSYCHOLOGICAL INSTRUMENTS USED IN STUDIES OF NON-COGNITIVE ATTRIBUTES OF HIGH-RISK STUDENTS AND UNDERACHIEVERS

Achievement Anxiety Test	(Desiderato & Koskinen, 1968)
Allport-Lindzey Study of Values	(Mazak, 1967; King, 1968; Thomas, 1970; Petry, 1975)
Alpha Biographical Inventory	(Petry, 1975)
Bales & Couch Acceptance of Authority Scale	(Trachtman, 1975)
Brown Holtzman Study Habits Inventory	(Diener, 1960; Desiderato, et al., 1968; Thomas, 1970; Crabbe & Scott, 1972; Dispenzieri et al., 1971)
College Characteristic Index	(Hayes, 1974)
College Student Satisfaction Questionnaire	(Starr et al., 1972)
Edwards Personal Preference Scale	(Krug, 1959; Merrill & Murphy, 1959; Thomas, 1970)
Expectancy Inventory	(Binder & Jones, 1970)
Guifford Zimmerman Temperment Scale	(Hummel and Sprinthall, 1965)
Herren-Kohls Feelings About Success and Failure	(Dispenzieri et al., 1971)
Intellectual Achievement Responsibility	(Trachtman, 1975)
Instrument of Aspiration	(Harrison, 1959)
Inventory of Self Appraisal	(Hall, 1972)
Junior Index of Motivation	(Rayburn & Hayes, 1975)
Kohn Problem Check List	(Kohn & Rosman, 1974)

Kohn Social Competence Scale	(Kohn & Rosman, 1974)
Liking for Role	(Crabbe & Scott, 1972)
Manifest Anxiety Scale	(Hayes, 1974)
McClosky Scharr Anomy Scale	(Trachtman, 1974)
McClelland Thermatic Appreception Test	(Hall, 1972)
Minnesota Multiphasic Personality Inventory	(Barger & Hall, 1965; Pandey, 1972)
Opinion, Attitude, Interest Survey	(Lacher, 1973)
Motivation Check List	(Packwood, 1973)
Omnibus Personality Inventory	(Kisch, 1967; King, 1968; Lacher, 1973)
Personality Orientation Inventory	(Goldman & Olczak, 1976)
Picture Identification Test	(Barger & Hall, 1965)
Rokeach Dogmatism Scale	(Trachtman, 1975)
Rorschach	(Carnes, 1973)
Rosenburg Self-Esteem	(Henson, 1976)
Rotter's Internal-External Scale	(Hayes, 1974; Trachtman, 1975; Henson, 1976)
Sarason's Test Anxiety Scale	(Crabbe & Scott, 1972)
Schaefer Classroom Behavior Inventory	(Kohn & Rosman, 1974)
Self Concept Scale	(Binder & Jones, 1970; Calsyn, 1977)
Taylor Manifest Anxiety Scale	(Crabbe & Scott, 1972)
Tennessee Self Concept Scale	(Trachtman, 1975; Dowdle, 1977)
Thorndike's Dimensions of Temperament	(Petry and Craft, 1976)
Thurstone's Personality Schedule	(Crabbe & Scott, 1972)
Trodahl Powell Dogmatism	(Henson, 1976)

Stanford Binet Interest Scale	(Kohn & Rosman, 1974)
Stern Activities Index	(Hayes, 1974)
Strong Vocational Interest Blank	(Hummell and Sprinthall, 1965; Rayburn & Hayes, 1975)
Watson-Glazer Critical Thinking Analysis	(Jackson, 1967; Choi & Malak, 1975)

APPENDIX B

DEFINITION OF TERMS

BASIC--courses or programs that concentrate on the fundamental areas of English, mathematics, and reading.

COMPENSATORY--a group of courses designed to correct academic deficiencies.

DEFAULTER--students who withdraw early in the term and who are not in academic difficulty.

DISADVANTAGED--students from low socio-economic strate.

DROPOUTS--students who quit school when they become of age or those who withdraw from school prior to completing their expressed goal.

HIGH-RISK--students scoring below the 30th percentile on standardized tests or having a "D" average in high school.

LOW-ABILITY--students with low aptitude and achievement test scores.

NON-TRADITIONAL--older, handicapped, or minority students with special needs.

PSYCHOLOGICAL DETERMINANTS--those non-cognitive characteristics, i.e., self-concept, values, attitudes, and learning styles.

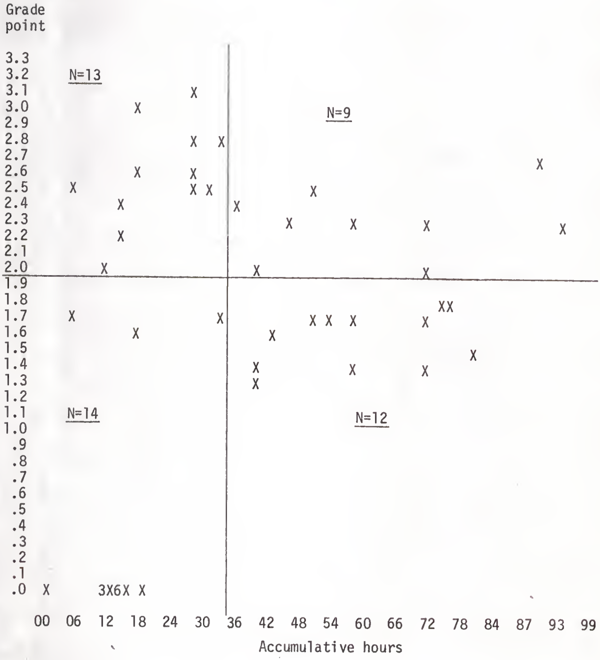
REMEDIAL--courses or programs that are fundamental in content.

SPECIAL--a more encompassing term incorporating remedial, basic, and compensatory courses and usually including adjunct services, i.e., counseling, tutoring, recruitment, and financial aid.

UNDERACHIEVER--students with average or above aptitude and achievement test scores but who do not perform at expected level.

APPENDIX C

SCATTERGRAM SHOWING G.P.A. AND ACCUMULATIVE SEMESTER HOURS FOR THE NON-SUCCESSFUL HIGH-RISK GROUP



APPENDIX D

CORRELATION OF COEFFICIENTS BETWEEN THE ALLPORT-VERNON-LINDZEY STUDY OF VALUES AND THE TENNESSEE SELF CONCEPT SCALE

	Tennessee Self Concept Scale	Allport-Vernon-Lindzey Study of Values					
		L1 Theoretical	L2 Economic	L3 Aesthetic	L4 Social	L5 Political	L6 Religious
SC	Self Criticism	-0.01	-0.13	-0.02	-0.03	0.01	-0.10
TOT	Self Esteem	0.04	-0.14	0.00	0.04	0.05	-0.02
R1	Identity	0.04	-0.13	0.00	0.02	0.03	-0.02
R2	Self Satisfaction	-0.05	-0.13	-0.13	-0.07	-0.02	0.00
R3	Acceptance of Behavior	-0.03	0.00	-0.09	-0.02	-0.02	0.01
T1	Physical	0.08	0.01	0.00	0.08	0.07	-0.02
T2	Moral-Ethical	0.00	-0.14	-0.03	0.01	0.01	-0.01
T3	Personal	0.06	-0.09	0.02	0.06	0.07	0.00
T4	Family	0.03	-0.01	-0.01	0.03	0.05	-0.03
T5	Social	0.05	-0.12	0.00	0.01	0.07	-0.02

APPENDIX E

CORRELATION COEFFICIENTS BETWEEN THE WATSON-GLASER CRITICAL THINKING APPRAISAL AND THE TENNESSEE SELF CONCEPT SCALE

		WG1 Inference	WG2 Recognition of Assumptions	WG3 Deductions	WG4 Interpretation	WG5 Evaluation of Arguments
SC	Self Criticism	0.14	0.26	0.27	0.32	0.41
TOT	Self Esteem	0.42	0.34	0.33	0.41	0.35
R1	Identity	0.42	0.32	0.33	0.39	0.37
R2	Self Satisfaction	0.32	0.21	0.18	0.27	0.23
R3	Acceptance of Behavior	0.30	0.15	0.18	0.21	0.19
T1	Physical	0.32	0.21	0.29	0.32	0.31
T2	Moral-Ethical	0.43	0.32	0.33	0.39	0.32
T3	Personal	0.41	0.38	0.29	0.40	0.33
T4	Family	0.43	0.27	0.34	0.34	0.32
T5	Social	0.39	0.33	0.35	0.41	0.34

APPENDIX F

CORRELATION COEFFICIENTS BETWEEN THE WATSON-GLASER CRITICAL THINKING APPRAISAL AND THE ALLPORT-VERNON-LINDZEY STUDY OF VALUES

	WG1 Inference	WG2 Recognition of Assumptions	WG3 Deduction	WG4 Interpretation	WG5 Evaluation of Arguments
L1 Theoretical	0.07	0.10	0.10	0.14	0.24
L2 Economic	0.08	0.05	0.01	-0.07	0.16
L3 Aesthetic	0.03	0.26	0.12	0.19	0.23
L4 Social	0.03	0.06	0.02	0.11	0.15
L5 Political	0.13	0.11	0.17	0.15	0.23
L6 Religious	0.02	0.03	-0.10	-0.00	0.17

Watson-Glaser Critical Thinking Appraisal Intra-correlations

	WG1	WG2	WG3	WG4	WG5
WG1	1.00	0.38	0.40	0.51	0.48
WG2		1.00	0.52	0.58	0.48
WG3			1.00	0.53	0.44
WG4				1.00	0.50
WG5					1.00

APPENDIX G

TENNESSEE SELF CONCEPT SCALE INTRA-CORRELATIONS

	Self Criticism	Self Esteem	Self Identity	Self Satisfaction	Acceptance of Behavior	Physical Self	Moral-Ethical Self	Personal Self	Family Self	Social Self
	SC	TOT	R1	R2	R3	T1	T2	T3	T4	T5
SC	1.00	0.73	0.73	0.62	0.65	0.76	0.66	0.72	0.68	0.73
TOT		1.00	0.96	0.91	0.84	0.85	0.97	0.97	0.86	0.96
R1			1.00	0.78	0.82	0.85	0.93	0.93	0.85	0.93
R2				1.00	0.72	0.71	0.87	0.88	0.75	0.88
R3					1.00	0.94	0.95	0.94	0.93	0.94
T1						1.00	0.90	0.92	0.92	0.91
T2							1.00	0.03	0.94	0.92
T3								1.00	0.91	0.94
T4									1.00	0.91
T5										1.00

APPENDIX H

ALLPORT-VERNON-LINDZEY STUDY OF VALUES INTRA-CORRELATIONS

	L1 Theoretical	L2 Economic	L3 Aesthetic	L4 Social	L5 Political	L6 Religious
L1	1.00	0.74	0.79	0.75	0.77	0.75
L2		1.00	0.73	0.75	0.77	0.76
L3			1.00	0.74	0.66	0.68
L4				1.00	0.82	0.76
L5					1.00	0.67
						1.00

APPENDIX I

MEANS OF ALL VARIABLES

Variables	Successful	Non-Successful	Total Combined Sample	General Norms
Watson-Glaser				
Inference	7.48	6.85	7.13	N.A.
Recognition of Assumptions	8.92	8.50	8.64	N.A.
Deduction	13.84	12.97	13.27	N.A.
Interpretation	14.80	13.29	13.80	N.A.
Evaluation of Arguments	7.70	7.43	7.53	N.A.
TOTAL	52.4	50.8	51.3	65.6*
Tennessee Self Concept				
Self-criticism	31.60	31.64	31.63	35.54
Self-esteem	331.75	304.31	313.71	345.57
Identity	120.88	112.62	115.45	127.10
Self-satisfaction	103.76	92.37	96.27	103.67
Acceptance of behavior	108.12	99.52	102.46	115.01
Physical self	69.16	64.00	65.76	71.78
Moral-ethical self	66.28	59.41	61.76	70.33
Personal self	63.04	58.58	60.10	64.55
Family self	67.36	62.06	63.87	70.83
Social self	65.80	59.62	61.73	68.14
Allport-Vernon-Lindzey Study of Values				
Theoretical	33.04	36.97	35.63	42.58
Economic	34.16	35.16	35.15	42.79
Aesthetic	33.84	32.93	33.20	35.33
Social	32.84	37.97	36.21	36.80
Political	34.20	35.70	35.19	43.01
Religious	34.04	36.20	34.46	38.88

*12th grade.

APPENDIX J

STANDARD DEVIATIONS OF ALL VARIABLES

Variables	Successful	Non-Successful	Combined	General Norms
N	25	48	73	
Watson-Glaser				
Inference	2.56	2.90	2.78	N.A.
Recognition of Assumptions	2.85	3.14	3.03	N.A.
Deduction	3.03	4.15	3.81	N.A.
Interpretation	2.30	4.10	3.64	N.A.
Evaluation of Arguments	1.90	2.85	2.55	N.A.
TOTAL	N.A.	N.A.	N.A.	10.9*
Tennessee Self Concept				
Self-criticism	9.31	11.37	10.64	6.70
Self-esteem	75.96	98.95	92.12	30.70
Identity	28.34	36.72	34.11	9.96
Self-satisfaction	27.50	33.25	31.68	13.79
Acceptance of Behavior	25.24	32.71	30.46	11.22
Physical self	16.16	21.31	19.74	7.67
Moral-ethical self	16.56	20.12	19.14	8.70
Personal self	15.68	19.23	18.11	7.41
Family self	15.85	20.55	19.13	8.43
Social self	15.76	19.50	18.43	7.86
Allport-Vernon-Lindzey Study of Values				
Theoretical	15.96	14.47	15.00	6.47
Economic	15.82	14.33	14.77	6.92
Aesthetic	15.74	13.64	14.29	8.01
Social	15.65	15.29	15.50	6.29
Political	16.01	14.83	15.15	6.40
Religious	15.46	16.02	15.76	8.81

*12 graders.

APPENDIX K

SUGGESTED REFERENT CRITERIA FOR NON-SUCCESSFUL GROUP

Watson-Glazer Critical Thinking Analysis

Inference	5.0
Recognition of Assumptions	7.0
Deduction	11.0
Interpretation	11.0
Evaluation of Arguments	6.0
TOTAL	40.0

Tennessee Self Concept Scale

Self-criticism	25.0
Self-esteem	259.0
Identity	94.0
Self-satisfaction	76.0
Acceptance of Behavior	83.0
Physical self	54.0
Moral-ethical self	49.0
Personal self	48.0
Family self	52.0
Social self	49.0

Allport-Vernon-Lindzey Study of Values

Theoretical	29.0
Economic	28.0
Aesthetic	25.0
Social	30.0
Political	28.0
Religious	30.0

APPENDIX L

CHARACTERISTICS OF "HIGH-RISK" STUDENTS AS REPORTED IN THE LITERATURE

IMMATURITY--(Morgan, 1952; Sarnoff & Raphael, 1955; Neugeboren, 1958; Roth & Myersburg, 1963, Powell & Jourard, 1963)

IMPULSIVITY--(Kisch, 1967; Lacher, 1973; Brown, 1960)

IRRESPONSIBILITY--(LACHER, 1973, Marsh, 1966; Morgan, 1952; Brown, 1960)

MORE ANXIOUS--(Marsh, 1966; Roth & Myersburg, 1963; Rose & Elton, 1966; Horrall, 1957)

LACKING INTERNALIZED GOALS AND VALUES--(Taylor, 1964; Roth & Myersburg, 1963; Marsh, 1966)

FEELS EASILY AND HOPELESSLY DEFEATED WITH PROSPECT OF FAILURE--(Marsh, 1966)

HARBORS RESENTMENT--(Middleton & Guthrie, 1959)

CONFLICT WITH AUTHORITY--(Garns, 1967; Taylor, 1964)

IDENTIFICATION WITH POWER--(Garns, 1967)

HOSTILITY--(Marsh, 1966; Rose, 1966; Rose & Elton, 1966)

REBELLIOUSNESS--(Garns, 1967)

AGGRESSIVE--(Chambers et al., 1965; Barger & Hall, 1965)

FRUSTRATED AT DEPENDENCE--(Wesley, 1961)

MORE DEPENDENT--(Grace, 1957; Middleton & Guthrie, 1959; Sarnoff & Raephael, 1955; Neugeboren, 1958; McClelland, 1955)

EMOTIONAL PASSIVITY--(Garns, 1966)

WITHDRAWN--(Taylor, 1964; Gowan, 1957; Kurtz & Swenson, 1951)

DENIAL OF SHORTCOMINGS--(Middleton & Guthrie, 1959)

INDECISIVE--(Pandey, 1972; Taylor, 1964)

SELF DEPRECIATION--(Roth & Myersburg, 1963)

LACK OF SELF-CONFIDENCE--(Morgan, 1952; Raylor, 1964)

OVERSENSITIVE--(Vaughan, 1968; Pandey, 1972)

EGOTISTICAL--(Vaughan, 1968; Pandey, 1972)

NON-CONFIRMING--(Marsh, 1966; Rose & Elton, 1966; Pandey, 1972)

MORE DEPRESSION--(Roth & Myersburg, 1963)

PROBLEMS WITH CONCENTRATION--(Wesley, 1961)

LESS SATISFIED WITH SELF--(Wesley, 1961)

MORE ILLNESS--(Wesley, 1961)

MORE ABSENCES--(Choi & Malak, 1975, Lacher, 1973)

POOR USE OF TIME--(Wesley, 1961)

POOR ENVIRONMENT--(Gibson et al., 1967; Pandey, 1967)

LESS UNDERSTOOD BY FAMILY--(Wesley, 1961)

UNABLE TO FORM WARM INTERPERSONAL RELATIONSHIPS--(Sarnoff & Raephael, 1955; Neugeborn, 1958; Powell & Jourard, 1963)

APATHETIC IN INTERPERSONAL RELATIONSHIPS--(Taylor, 1964)

LITTLE CONCERN FOR OTHERS--(Morgan, 1952)

DISLIKE FOR ABSTRACT THOUGHT--(Marsh, 1966; Rose, 1965, Rose & Elton, 1966; Pandey, 1972; Choi & Malak, 1975)

CONFLICT OVER SEX--(Horrall, 1957)

LOW ON HETEROSEXUALITY--(Krug, 1959; Barger & Hall, 1965)

HIGH ON ABASEMENT--(Krug, 1959)

HIGH ON EXHIBITION--(Barger & Hall, 1965)

HIGH ON AUTONOMY--(Barger & Hall, 1965)

APPENDIX M

BREAKDOWN OF HIGH-RISK STUDENT SAMPLE BY RACE, SEX, AND CLASSIFICATION

	Non-Successful			Successful		
	Male	Female	Total	Male	Female	Total
Black	8	12	20	3	15	18
White	17	11	28	5	2	7
Totals	25	23	48	8	17	25

	Total Group		
	Male	Female	Total
Black	11	27	38
White	22	13	35
Totals	33	40	73

Breakdown by Percentage of the Successful

	Male	Female	Total
Black	27%	55%	47%
White	23%	15%	20%
Total	24%	42%	34%

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BIOGRAPHICAL SKETCH

George M. Hitchcock, Jr., was born in Norristown, Pennsylvania, and grew up in Everett, Pennsylvania, and Cumberland, Maryland. His father was an engineer and architect who pioneered in pollution control.

He is married to Barbara Anne Hunt of Bedford, Pennsylvania, and has two children--Mark, age 16, and Julie Ann, age 13.

George became interested in psychology while in high school after reading The Human Mind by Menninger. He earned a B.S. degree in psychology from Jacksonville University in 1961. He was employed by the Juvenile Court of Duval County, Jacksonville, Florida, as a counselor from 1962 to 1965. He received a Master of Education in counseling and guidance from the University of Florida in 1964.

In the fall of 1965, he joined the staff of Central Florida Community College as a counselor and worked at Hampton Junior Community College until it merged with Central Florida Community College in 1966.

He filled the position of Director of Counseling at Central Florida from 1969 until 1978. He served as Chairman of the Student Development Commission of the Florida Association of Community Colleges from 1973 to 1975, and is a member of several professional associations and advisory boards. He has been a member of the Southern Accreditation Association since 1973. He was influential in organizing the Basic Education Program at Central Florida Community College. He is currently a counselor-instructor at Central Florida Community College. It was these varied experiences and volunteer work at correctional institutions that spurred interest in what the educational system does to and for a large percentage of its population, the high-risk student.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

John M. Newell

John M. Newell, Chairman
Professor of Foundations of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

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